COMPONENTS FOR POSITIONING DEVICES OF VEHICLE SEATS THAT CAN BE WELDED TOGETHER

TECHNICAL FIELD

The invention relates to components that can be welded together according to the main subject of patent claim 1.

STATE OF THE ART

Components of this type that can be welded together using a capacitor discharge welding process are known (DE 43 39 508 C2). With these known components, during the capacitor discharge welding process, a embossing designated as facet is pressed into the corresponding recess of the second component to the point that the two facing surfaces are in close contact after welding. To take up the volume displaced during the welding procedure, a catch pouch is provided in the area of the embossing designated as facet on at least one of the components.

Welding the two components in the known manner is disadvantageous, because the surfaces of the two components intended to be in contact are warped due to tolerances. This is disadvantageous in particular for sensitive positioning devices, such as, for example, tilt adjustment devices for the back rest of vehicle seats that exhibit a meshing tooth system, which requires essentially full parallism of the swivel axes of the two meshing components.

Furthermore, the applied special resistance welding method, namely the capacitor discharge welding procedure, used for the known components, is comparatively complex.

THE INVENTION

Based on this state-of-the-art, it is the objective of the invention to produce components that can be welded together and that enable an exact alignment after the welding process and that can do without the catch pouches for the volume displaced during the welding process.

This objective is accomplished with the features of patent claim 1.

Preferred exemplary embodiments of the invention arise from the sub-claims.

BRIEF DESCRIPTION OF THE DRAWING

A preferred embodiment of the invention is described below based on the drawing, of which

Fig. 1 shows a perspective view of two components welded together,

Fig. 1a shows a perspective view of the one component

Fig. 1b shows a perspective view of the other component,

Fig. 2 shows a vertical view of the components welded together shown in Figure 1, and

Fig. 3 shows a section along the sectional plane III-III in Figure 2.

THE BEST WAY FOR IMPLEMENTING THE INVENTION

In the shown exemplary embodiment, a first component 1 and a second component 2 are welded together. In the shown exemplary embodiment, the first component 1 is an adapter, which is welded to a second component, namely a bottom brace part of a tilt adjustment brace for the backrest of a vehicle seat. The first component exhibits two circulatory embossings 1f and 1g. These circulatory embossings 1f and 1g protrude beyond the surface 1h of the first component 1. These circulatory embossings have a central through hole 1k, which can be seen in Figure 3 at the circulatory embossing 1f. On the side of the first component 1 and spaced to both the circulatory embossing 1f and the circulatory embossing 1g are provided additional embossings 1a, 1b, and 1c that have the shape of fins. The height of the additional embossings 1a, 1b and 1c toward the common surface 1h is the same. In the welded condition, the additional embossings are resting against the surface 2c of the second component 2. The embossings 1f and 1g engage in complementary recesses 2a and 2b of the second component 2, which are designed as a through holes. During resistance welding, material melts in the contact zone between the circulatory embossings and the associated recesses. This molten welding material 1i reaches the free space, which is formed as a gap between the surfaces 1h and 2c.

The first component 1 designed as an adapter has an arc-shaped recess 1e and an adjacent chamber area 1d. The chamber area 1d overlaps the adjacent area of component 2 as well as an upper brace part that is not shown here.